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October 1991

approach

The Naval Aviation Safety Review

From the Editor

Helos
Yeah, That's the Ticket!

Not much happens at 100 knots with a rotor on top: at least that's what I thought. Yet suddenly I've been inundated with helo stories. Really exciting helo stories. Have helo bubbas become more verbose, like their jet counterparts? Or have they just enrolled in Ernie Hemingway's School of Great Writing?

Although the creative writing class might have helped, these are real-life aviation stories. Flying a giant salami slicer in the weeds may be fun but if things get rough you can't just pull a handle and say good-bye to your ailing bird. Ever seen a helo auto-rotate? If the crew walks away from it they'll probably be several inches shorter.

I hate to even think about those long, blue-water transits. You do remember our favorite ride at Wally's Wonderful World of Water Survival. Upside down, blindfolded, underwater, strapped to a chair is not my idea of a good time. I hate getting water up my nose.

Helos may not go the speed o' heat, but low and slow is tougher than Mach 2 at 30,000 feet. How many of you fixed-wing types have had near mid-airs with the mast of a small boy? Have you ever flown form in the goo when the closest you can get is 55 feet? That great big vegematic keeps getting in the way. And if you think the carrier deck is small, try the back end of an FFG. Add a gale-force crosswind and a pitching deck for a taste of the Navy adventure.

All of us fixed-wingers can learn something from our rotorhead brethren. Put yourself in the helo seat, it's a wild ride.

By Lt. Steve Halsted

approach

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(Photo by PH2 Michael Parsons)

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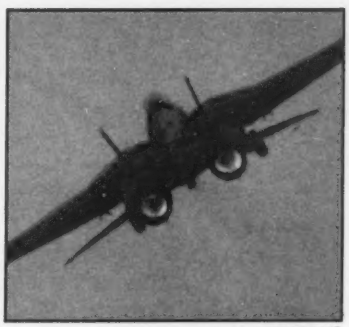

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For some reason we were still flying and I found myself contributing to the tension by chanting,

"Come On, Baby. Come On, Baby."

By Lt. J.K. Smith

Our mission was annual SAR-jump qualifications for our swimmers. We would launch one hour before sunset so that we could complete both day and night quals. Because I was new in the squadron and had all of 140 hours in the Sea King, I was excited about flying this hop. Anything other than fieldwork and dips was a good deal at this stage of the game. The HAC was a senior lieutenant and we were a new crew with only a couple of flights together.

Since I was going to be in the left seat, I figured I'd be matching torques as usual. Our crew consisted of one first crewman and two SAR swimmers. We would launch two helos and make the jumps less than a mile away in the local river.

I went through the normal performance-chart calcula-

Peter Mersky

tions without too much thought, and there was nothing unusual in the ADB, preflight or taxi. The wind was from the west so we lined up on runway 27 and made a normal takeoff.

After passing 70 feet, we turned to the north. At 150 feet, I heard a machinegun-like sound from the left side of our helo. It hadn't been long from my last emergency simulator and I thought, "Hey, that sounds just like the noise in the simulator for compressor stalls! There's a torque split, too!"

We pushed both speed selectors to full power as my HAC said, "What the hell was that?"

"I think we just had a compressor stall," I said. What a news flash.

The No. 1 engine had momentarily come back to life after we pushed the speed selectors to full power, but that was short-lived.

Pop, pop, pop! The noise returned. Both of us said, "compressor stall" at the same time. We were yelling so loud that the base guards could have heard us over the NARF-500 rush-hour traffic.

The HAC made an abbreviated emergency call to the tower. At the same time, we realized that the NR had dropped to 88 percent and we were at single-engine airspeed. The river seemed to be as big as the Atlantic Ocean as it rushed up toward us.

The run-on landing felt good, and we quickly got off the runway and shut down the No. 1 engine. After checking our pulses and taking some long breaths, we taxied back to the hangar.

The HAC was yelling something over and over; I thought it was a religious chant. The first crewman seemed to have a better command of English and I could make out his words: "Dump fuel!"

Maybe that was one reason we were falling out of the sky like as brick. After throwing the dump switches and seeing how slowly the fuel was leaving the aircraft, and how close the water was, I concluded that there was a distinct possibility that we would get wet.

As we passed 30 feet, the No. 1 engine suddenly surged on line again and gave us a few more seconds of power. We skimmed over the water at 15 feet as I wondered if we had overtemped the engines. I didn't care at that point, so long as they were both working.

"Should the landing gear be up or down for a water landing?" I wondered. "There are too many monumental decisions right now."

For some reason we were still flying and I found myself contributing to the tension by chanting, "Come on, baby. Come on, baby." I also made a paddling motion with my hands. I thought this was vital at this point.

We next found ourselves perpendicular to the duty runway and still miraculously airborne, probably because of ground effect. We had to decide whether to actually make a water landing or try to make the runway. It seemed like a HAC decision to me. He said, "We're going for the runway. I think I can make it!"

He gently pulled the nose up and started a right turn.

"Hey, we might actually pull this off," he said.

As the No. 1 engine surged again, we dropped the gear and I remembered to secure the fuel-dump switches as we crossed the runway. I couldn't remember to turn the switches on but I quietly applauded myself for remembering to turn them off. We still managed to spray a lot of JP-5 onto the runway.

The run-on landing felt good, and we quickly got off the runway and shut down the No. 1 engine. After checking our pulses and taking some long breaths, we taxied back to the hangar.

We met the operations officer as we walked into the hangar and he said, "Quick, take another bird and you still might be able to get the jumps out!"

The looks on our faces said it all and being the new guy, I risked my reputation again by blurting out, "I think I can speak for the crew: we're not exactly in the flying frame of mind."

We all laughed and parted company after completing the paperwork. Looking back, I think we made a wise decision not to take another aircraft. After all, some days on the beach just aren't worth the extra push. ◄

Lt. Smith is an SH-3H Sea King pilot with HS-7.

Why Aren't We Flying?

By Lt. Brian Brurud

Harry Gann

It was a habit I had picked up from one of the more seasoned instructors in flight training: Never fly a routine training mission. Now as a SERGRAD, I was flying the TA-4J so much that sorties and student errors became as routine as a sunrise. My defense against complacency was to tell myself before I strapped in, "This may be the day I have to eject."

I had read a lot about ejections, and I knew that a split-second delay in a desperate situation could be fatal. Yet, faced with the reality of an out-of-control aircraft, my compulsion to stay with the jet almost killed me. Thank goodness for the experienced pilot in the rear cockpit who helped me recognize the futility of our predicament and saved both our lives.

I was on an annual NATOPS check flight, doing aerobatics over beautiful south Texas. After I entered a half cuban-eight at 400 KIAS, the nose of the aircraft inexplicably hung up, despite full aft-stick deflection. I was inverted, with the nose 40 degrees above the horizon.

As the airspeed rapidly decreased, the aircraft departed controlled flight. It began an increasingly violent series of post-stall gyrations with severe negative-G spikes.

Passing 9,000 feet AGL the backseater ejected us, inverted, as we descended at *36,000 fpm*. It had been 12 seconds from the initial departure to our ejection and two seconds later, the Skyhawk hit the ground. Though I was well versed in emergency procedures, my reaction in the cockpit was fatally flawed.

After the jet departed, I promptly implemented OOCF procedures. While airspeed, AOA, and the turn needle fluctuated randomly, indicating post-stall gyrations, I held onto the stick with both hands and visually confirmed OOCF procedures. I was sure that the plane would soon be flying again if I maintained my position.

I repeatedly thought, "This thing should be flying."

Meanwhile, the oscillations became more violent and I checked my procedures again. At 9,000 feet, I looked at the altimeter and thought, "We should get out, but these are post-stall gyrations. This thing should fly." At that instant, we went up the rails.

In retrospect, it is easy to find fault in what I was thinking. I believed that the aircraft would respond to my correctly applied OOCF procedures. However, I missed the most important step: out-of-control passing 10,000 feet AGL – eject!"

Because of the violence associated with severe negative G, ejecting was considerably more difficult than merely pulling the handle. The pilot in the rear cockpit was unable to reach the lower ejection handle. He could pull the curtain only by reaching over his left shoulder between his shoulder blades with his right hand. He made a timely decision to eject, struggled with finding the handles, and still had us on our way at 9,000 feet.

At that altitude, I was just beginning to consider ejection and still hoping for recovery. If I had been alone or not graced with an experienced backseater, my chances would have been slim. Only later in the hospital did we learn that a drop-tank and the aft tail section had separated from the aircraft. That would have been a tough jet to fly home.

Once out of the jet, my troubles had just begun. Proper body position is hard to attain in an out-of-control plane, especially with the A-4's antiquated restraint system. I suffered compression fractures, a fractured upper arm and multiple lacerations.

What seemed to be a rough opening shock turned out to be my seat hitting the parachute and ripping a hole in the canopy. The damage to the chute was located in the white section and I couldn't see it as I checked the canopy while descending through an overcast.

Having checked the chute, I completed my IROK procedures as if I had practiced them every day. Keeping in mind that I was over land, I inflated my LPA to protect my neck and mid-section while leaving the raft in the seat pan. I removed my mask – which had pulled up over my eyes – left my gloves on and visor down. Only then did I consider the four-line release.

I decided not to pull the release because my shoulder and back injuries were very painful. Later, investigation showed that using the four-line release, combined with the damage to the canopy, would have resulted in a streamer! In fact, the chute actually failed near landing. If it had not been for a yucca plant that absorbed my impact, I might have well ended up a foot shorter.

After landing, I discovered how hard it was to get to my survival gear with one good arm. I managed to remove my flares, signal mirror and PRC-90. One-hand operation of the PRC-90 is tricky. Also, the ELTs in both cockpits' seatpans need to be secured before the PRC-90 is useful.

Fortunately, a rancher saw the wreckage and located us in 15 minutes. After we got first aid from local paramedics, I assumed our recovery would be by SAR helicopter. Such was not the case. The helo, lacking compatible radios with local authorities, landed nearly a half mile from our position. My adventure ended with a painful ambulance ride across the bumpy desert which made me wish that I had told the rancher to mark a suitable landing zone with a smoke flare.

After a year of surgery and rehabilitation, we are both back on flight status and consider ourselves extremely lucky. ◄

Lt. Brurud is an instructor with VT-21.

The need for a negative-G restraint system in the A-4 and T-2 has long been recognized and is well documented. A proposed aircrew-system change (ACC 509, A-4 Crewmember Restraint System) has been in work since early 1986. A recent review (May-June 1991) of this over-the-shoulder design found that while ACC 509 provides better negative-G restraint, it is unacceptable for use in the A-4 because it restricts the pilot's movement. NAVAVDEPOT Pensacola is redesigning the restraint harness using a modified lap belt. – LCdr. John A. Dickie, NAVSAFECEN A-4 analyst.

Visions and Visual Illusions Are Invariably Different.

By Lt. Craig Black

I enjoyed the cool light show at flight physiology training. From the comfort and safety of my chair I was introduced to a number of simulated optical illusions so I could recognize the real thing in flight. What I wasn't prepared for was the confusion and panic I experienced when I was overwhelmed by a real-world illusion.

We were bringing our UH-1N home after some night pattern work, 500 feet, 100 knots, a mile off the beach. I was in the right seat with an impressive view of the city lights. The HAC had the controls in the left seat with nothing but darkness out his window. We were traveling along a popular VFR helicopter route that kept us clear of the TCA and adjacent ARSA, and were not in contact with approach control.

We spotted approaching traffic on our nose at five miles and assumed it was another helicopter that would pass on our left. Its peculiar lighting confused us, though. At two miles, the approaching aircraft started turning toward us. I switched on our landing light to make sure the other pilot saw us, but he kept closing. With a half-mile separation, my HAC wrapped the Huey into a steep, descending right turn to avoid the imminent collision.

All eyes in our helo were fixed on the other aircraft.

All eyes in our helo were fixed on the other aircraft. Time slowed. The sensation was like that of a car speeding toward us at night, its lights spreading farther apart as it got closer, filling our entire windshield before it crashed into us.

The lights on the beach were rising to meet us. Our altitude was dangerously low. The HAC pulled out of the descent and leveled off at 100 feet. Then we turned our heads and saw not one but two helicopters passing well clear of us. We had never been in danger of a midair but had been the victims of an overwhelming optical illusion.

How were we fooled? From a distance, against the black sky out to sea, the lights of the two aircraft blended together to appear as one. As the aspect changed, the lights of the formation diverged giving us the car-in-the-wrong-lane picture. By the time the formation reached our 10 o'clock, it filled our windscreen. We thought we were goners. Our evasive maneuver gave us a different aspect on the formation and we saw that the "attacking" aircraft were really two Hueys in a close trail formation.

We could have avoided this scary experience if we had been talking to approach control and used flight following services. They would have told us about the approaching Hueys and we would not have been confused by the jumble of lights. Skirting edges and sneaking beneath the floors of TCAs and ARSAs may seem like the easy way to go, but flight-following service is available for a good reason.

We also learned not to assume so much. We failed to recognize the traffic as a flight of two because we were set on believing that it was a single aircraft and ignored all the clues to the contrary.

Finally, an evasive maneuver won't help matters if it puts you in the water. If it hadn't been for the artificial horizon presented by the city lights, we may not have pulled out of our descent soon enough since we were looking outside the cockpit and not at the radar altimeter. I suppose that the only thing worse than dying in a midair collision is killing yourself while trying to evade an imaginary one.◀

Lt. Black is a UH-1N pilot and the aircraft handling officer onboard USS *Belleau Wood* (LHA-3).

Learning Physics in the Landing Pattern

By LCdr. Pat Mahaffey

After a satisfying ACM sortie, the fighters joined up and headed back to the carrier for a standard case I recovery. Dash 1 passed the lead to the wingman (a nugget) after join-up and the flight proceeded to the ship's expected recovery position. The aircraft arrived at the initial to find a ready deck and an impatient call from the Boss to "charlie."

The nugget kissed off his wingman and broke at the bow. The downwind transition to the dirty configuration was rushed by the faster sequence created by the break at the bow. The pilot set himself up close abeam and was still fast, but he could bleed off airspeed during the approach turn. Landing checks were hurried but completed before he turned onto final. The pilot used a standard angle of bank at the 180 but from a much closer-than-normal abeam position.

The pilot thought he had everything under control, but the standard approach turn, coupled with the close position abeam, caused him to overshoot the final bearing.

As the ship's wake passed beneath the Tomcat, the pilot increased his angle of bank to prevent the overshoot and establish himself on centerline and on glidepath. Suddenly, the plane wallowed and nearly stalled. Only a quick reaction by the pilot (who leveled the wings, added power and took the jet around the right side of the island) prevented a mishap.

The pilot learned two important lessons. First, increasing the angle of bank increased the load factor and the stall speed. The approach turn to final is somewhere between 25 and 27 degrees angle of bank and increases the load factor of 1.12-1.15 with a stall speed of only seven percent above that required for level flight.

Overbanking to keep from overshooting creates an even greater load factor—G to us aviators—of 2.0 while at the same time the stall speed rises by 41 percent. Another 10 degrees of bank and the stall speed increases dramatically to 70 percent above wings-level stall speed.

The second lesson highlights the difficulty the nugget pilot encountered in trying to deal with the faster sequence. If the lead simply waited a few more potatoes to break, this situation may have been avoided.

The nugget pilot's skill kept this incident from becoming a full approach-turn stall and disaster. Don't test the laws of physics in the landing pattern. Don't try to push your abilities beyond your capabilities. ◄

LCdr. Mahaffey is an F-14B pilot with VF-24.

Hydraulic, That Is

By Ltjg. Martis

It was the third day of our FRS CQ. The squadron had been having its share of maintenance woes over the last 48 hours, but things were starting to improve. The weather certainly helped lift our spirits as we witnessed a beautiful southern California afternoon. The previous night had been just the opposite with case III approaches ending with nervewracking arrestments after breaking out at 500 feet.

The afternoon sunshine eased my fear of climbing back into our Intruder and I felt the anxious anticipation of a cat shot. My pilot and I, both nuggets, began our preflight and strapped in with time to spare.

Ten minutes later, both engines were turning and we were busy setting up the cockpit for launch. Our flight plan was to get two cats and two traps to stay day-qualified in preparation for night CQ.

"No big deal," I thought. "Just 20 minutes, then shut down and head below for a slider." I didn't pay too much attention to my pilot when he mentioned that the hydraulic gauges were acting "funny." I assumed the gauges were just another gripe we'd have to write up after the hop.

After another 10 minutes, the yellow shirts broke us down and we taxied forward to cat 2. We were first in line and the directors hustled us onto the shuttle. We got a quick runup signal and went to MRT. The wipeout was normal.

Although both my pilot and I noted a distinct dip in the flight hydraulic gauges, I didn't think there was anything to worry about; we'd both seen this sort of thing dozens of times before.

My pilot asked if I was ready and when I gave him a thumbs-up, he saluted crisply and leaned back for the shot. I felt the familiar thump followed by the acceleration of the stroke. Usually, at this point, I call "Good end speed," and "Positive rate of climb." Before I could key the mike, my pilot swore and I quickly scanned the instruments. Both

JO2 Joe Bartlett

The afternoon sunshine eased my fear of climbing back into our Intruder...

flight hydraulic gauges read zero. (Postflight inspection would reveal a quarter-size hole in one of the main engine-bay hydraulic lines.) Without thinking about it, I keyed the mike, declared an emergency and asked to remain upwind until we had things under control.

The Boss had the rest of the recovery delta easy overhead, giving us the pattern. Before we turned downwind, we had already decided to trap. NAS Miramar was only about 60 miles away but we had no idea how long our hydraulic system would hold out. I ran through the PCL procedures on our downwind leg, while every few seconds checking the combined-system gauges.

My pilot turned in at a normal starting position and noted a sluggish feel to the controls. This was getting interesting. We were high at the 45, but the pilot was starting to get the feel of flying the damaged airplane.

As we crossed the ship's wake, I could tell controllability was difficult as my pilot had to make several opposing control corrections to maintain altitude and lineup. We rolled out high, but on speed and with a slightly higher-than-normal rate of descent. I called the ball and we started hearing a continuous commentary from a nervous FRS LSO. We flew a relatively smooth pass to a 3-wire.

Once we had stopped, I noticed a huge plume of white smoke rising behind us. It quickly dissipated, however, and I learned later the smoke came from hydraulic fluid draining onto the deck where it was ignited by our exhaust.

Many months later, I looked back at the warning signs that should have told us about the impending hydraulic failure, such as several MAFs on hydraulic leaks in the same area and gauges dipping at full power. Several times, the airplane tried to tell me that something was wrong but the nice weather and the nature of our hop made me ignore the signs. ◄

Ltjg. Martis is a BN with VA-95.

BUCKEYE bingo

Van Cader

By Lt. Al St. Clair

I was spotted number two behind cat one, fully expecting to shut down once again for fuel since I was only 200 pounds over bingo.

Training command CQs are anything but normal, as all naval aviators can attest. We can all rest assured that our future brethren will experience the same excitement and bewilderment during their first overhead look at the boat.

My T-2 class was a confident group. We had no reservations about going to the boat and we had an outstanding group of LSOs for instructors. The last thing we heard before we boarded the C-9 was "Pops" recalling an episode in which a T-2 barely made it back from CQ to NAS Southeast before flaming out in the line area.

"Those days were pretty wild," I thought during the airlift. "Less control of the students, more freedom for interpretation, get-the-job-done mentality... Couldn't happen today. Training is too strictly controlled. Everyone is looking over your shoulder evaluating your every move."

The operations officer's last words to me were, "Don't let it happen to you."

The first thing you learn as an aviator in southern California is that the state is so sunny because the coast is so cloudy. This arrangement is ideal for varsity needle flyers and less-than-optimum for non-instrument-rated Buckeye pilots. After a disappointing three days of watching A-4s launched into weather for case II recoveries, the clouds broke—according to someone's interpretation—and gave us new guys a chance.

NAS Miramar looked like a stirred-up hornet's nest as three air wings tried to cram three days of CQ into one. Our brief was thorough. We went over all the items such as BRC, pattern, and

mixed pattern with fleet aircraft. We knew the boss was more than slightly tired of student mistakes around his boat.

As soon as we were wheels in the well and joined in our four-plane, distractions evaporated and we focused on the task at hand: to CQ without scaring anyone very badly. After what seemed like an eternity in the overhead stack and looking down a small gray deck of what was called a super carrier, the boss called us down.

The deck got bigger as we came in for the break. I dropped the gear and rolled into the groove. Next thing I knew, I was calling the ball (clara low) and hanging on for the ride of my life. After a few traps, I began thinking about getting back to the beach. I recalled Pop's words to the wise and paid special attention to that T-2 bingo, especially since the purple shirts had already re-fueled my aircraft twice (lots of time turning on deck).

Following my last trap and a call from the platform that's music to every student's ears, I was spotted number two behind cat one, fully expecting to shut down once again for fuel since I was only 200 pounds over bingo.

With a classmate in front of me who was also a qual, it occurred to me that we could fly back in formation and talk about our experience during the debrief at the base.

I was disappointed when the catapult went down and I sat behind my buddy, getting my first real taste of jet exhaust a la CV. At this point I realized that the grapes were not going to fuel me and since I was now below bingo, I decided to strike up a conversation with this guy in the tower called "Boss." To this day, I'm not sure if it was me or him, but after our somewhat brief, one-sided talk, I decided that my T-2 had more than enough fuel to reach Miramar.

That little voice kept saying that he knows what's going on and maybe we are now closer to the beach than when we left. Then the boat changed the T-2 bingo and suddenly, we were in limits.

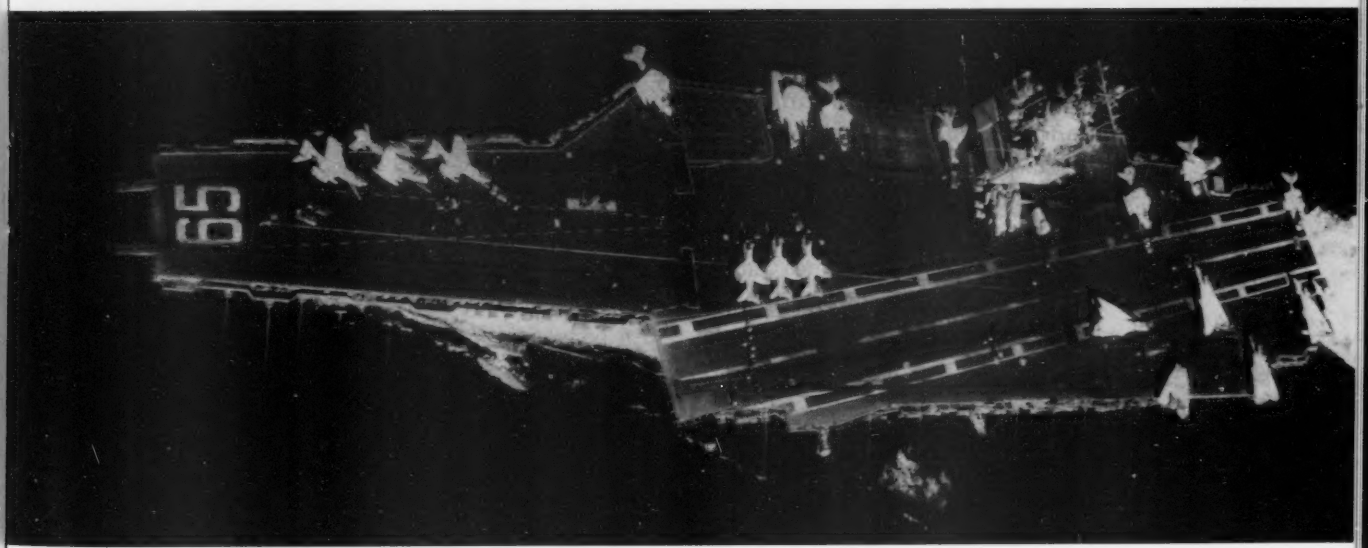
Cat one was back up and my classmate was in tension. He launched and it was my turn. I was going through my procedures, signals, and emergencies when the yellow shirts signalled that they had another problem with the cat. During my delay, my buddy had climbed looking for his lead (who was still on deck getting gas) when his TACAN locked on to San Clemente. It didn't take long for him—a true rocket scientist—to decide, based on the radial and DME from the island, that Miramar was a lot further that we thought.

As I cleared the deck, my friend's voice came over the radio declaring he was bingo to the beach, solo. Thanks a lot. Meanwhile I turned downwind, hook down, flaps down, and prepared to bag an extra trap and some gas. That didn't fool anybody for long and I was told to clean up, join up, shut up, and get out of his airspace.

After an overhead rendezvous, my lead signaled for fuel state and after I replied, he gave me a look not designed to leave me feeling warm and fuzzy. All the way back, I stared down at the Pacific and at my fuel gauge. I thought how cold the water was this time of year and wondered how long would I wait for a helo. If I had to go down it would be nice to have some company in my raft and a few names came to mind. As it turned out, I made it back—with 300 pounds. My buddy had the same, not a big comfort factor. Later I heard that thanks to us, the boat changed its T-2 bingo. To say the least, my first real bingo took the edge off of having just gotten my carrier qual. ◄

Lt. St. Clair is an S-3 pilot with VS-31.

PH3 Ted Kappler



Peter Mersky

Oh, No! Not the "E" Word!

By Lt. George Kobler

The standard southern California 2,000-foot layer streaked past our canopy as we rose into the clear skies off the coast for a 1 v 1 ACM training mission. Everything seemed right. The brief was concise, yet thorough. Our start-up, taxi and takeoff went smoothly except that the fuel totalizer in the back seat was down. No big deal. That's why we have three fuel gauges in the F-14.

The plan was simple: beat up an A-4 and go home. I had been flying with my pilot for a month and we had several ACM hops under our belts. I felt our cockpit coordination was good.

After we got out to the work area, we went through the canned warmup maneuvers. Then we got down to it. After a couple of turns, however, it was obvious that either this bogey was really good or we weren't as good as we thought. We ended up doing something that no self-respecting F-14 crew should do—groveling with an A-4.

During the fight, I had dropped something out of my normal ACM scan: fuel. I figured that if I didn't have a totalizer, I didn't have to look at the gauge.

During the fight, I had dropped something out of my normal ACM scan: fuel. I figured that if I didn't have a totalizer, I didn't have to look at the gauge. Unfortunately, my pilot was so engrossed in turning the fight into a victory that he didn't think about fuel either. We knocked it off and headed back home. My totalizer rolled around and finally steadied on a low-fuel state. I told the pilot and, using the fuel tapes, he came to the same conclusion. We were below bingo fuel so we immediately climbed to assume a max-range profile.

I reluctantly told the bogey about our situation and he detached. Although we could have made it home, three things—squadron SOP, bingo fuel, and the low cloud layer off the coast—convinced us to go to a closer field. I told approach control and they asked why we were still headed out to sea. Great! Now we had an INS problem, and the TACAN needle was still spinning. Something about raining and pouring flashed through my mind.

The bogey, who was also on the frequency, offered a piece of advice by telling us to say the "E" word. I thought, "OK, we are headed the wrong way and running out of gas, but I don't think ejecting is the call just yet."

The pilot said, as if he was reading the reluctance in my mind, "Declare an emergency." Oh, yeah, so I did.

We told the controller we were no-gyro and we got a vector to a GCA at the divert field. We landed with only 200 pounds below our SOP's day landing fuel. Our call back to the squadron was embarrassing, but we were safely on deck. We refueled and flew a 20-minute cross-country home.

After punishing ourselves for a while, we endured the jibes from our squadronmates and a stern discussion with our skipper. Then we talked about what we could have done differently.

I should have prompted my pilot to check the fuel state, especially in a fight when he's concentrating on flying the airplane. Now, he brings a bright, yellow grease pencil to mark the bingo fuel on the tapes just in case the totalizer failed on another flight.

Emergencies are not just something that happen; they can be created. My hesitation to declare an emergency came partly from vanity. I didn't want to confess I had messed up.

Finally, our decision to bingo to the divert field was a good one that came from training in a safety-conscious squadron that strictly adhered to SOP. The fact that the pilot initiated and flew a no-kidding bingo profile gave us more gas in the end. ◄

Lt. Kobler is an F-14B RIO with VF-24.

"Uh, Your *Other* Right Boss"

by Ltjg. Craig Whitis

It was one of those "death" nights, blacker than I can describe, and it also happened to be my first experience at the boat with no horizon and no visual reference. As we were in the North Arabian Gulf during Desert Storm, the ship was as dark as it could get, except for the flight deck.

My HAC made sure we were well rested for the 150-nm mission. The preflight and checklists were normal. Although I was in the right seat, he would fly the takeoff because the ship's relative winds dictated a starboard departure. I assumed we'd make a right turn to our first course. We lifted, slid back, eyes fixed on the ship's horizon reference indicator, then pivoted right for the takeoff. Even though I'd heard about this part a thousand times, I was still amazed when the black void immediately enshrouded the cockpit. I made myself look inside at the instruments.

"There," I thought, "all the good stuff works. Everything's normal."

We slowly climbed, gaining airspeed, and simultaneously turned left, into the ship! My attitude indicator (AI) showed six degrees, left wing down, and my turn needle had us in a half standard-rate-turn left turn.

"Are we turning left?" I croaked. Of course I knew we were turning left. I could feel it. Couldn't he?

"Am I?" he said. He instinctively pulled in collective to increase altitude, and rolled right. As he checked his AI, he looked at his needle, which had us in a full, right turn. So he again rolled into a steeper left turn. Here is where I failed my crew. Rather than telling the HAC to turn right, I assumed he would see the instrument error any second. And at the same time, the nugget in me was worried that he intended to turn left, and I didn't want to let on that I didn't know why. I looked at his AI which matched mine. Then I looked at his needle which indicated no turn! Simultaneously, I saw a dim interior light on the ship's bridge outside his window. We were barely higher than the ship's mast!

"We're in a left turn!" I gasped. But he had already seen the ship and immediately turned right, climbed, and relinquished the controls to me as we flew down the ship's port side. Only then did he realize that he had a severe case of vertigo induced by the faulty needle. It was over in 15 seconds—that was about eight seconds too many.

I knew that something was wrong but I didn't act immediately to correct the situation. My first warning kept us from hitting the ship. But that night, one warning wasn't enough. I should have taken the controls after my first warning. Our aircrewman in the back never spoke up, either.

Fellow nuggets, it happens just like your peers say it does: some night you're going to make the difference in whether you walk or swim home. ◄

Ltjg. Whitis is an SH-60 pilot with HSL-42.

Fly Together; Die Together?

By Cdr. B.A. Foerster

PH1 A.E. Legare

Rank has its privileges, or, translated into naval-aviationese, "He's senior; he must know what he's doing." As a mid-level O-4 I found out what that really means. One day in the Med, we joined on a KA-6D at 15,000 overhead the ship to update our tanker quals. I was fairly proficient and had helped a lot of nuggets improve their techniques because the S-3 is not the easiest aircraft to tank with, which may have had something to do with what followed.

We had some difficulty with the pilot's ICS. The static was annoying while on hot mike, which we had selected for tanking. The joinup went well and the tanker extended his drogue as we closed. He cleared us in for practice plugs. The first plug went OK and we backed out for a second.

The second plug went fine until I decided to do something not too bright. After I stabilized, latched in the basket (or so I thought), I looked down for a couple of seconds to secure hot mike. I felt a slight vibration and looked up to find the KA-6 about eight feet from my windscreen and closing. I pulled power and backed out.

I looked over at my COTAC who was trusting me with his life. He was staring directly at the tanker with both hands clenched tightly along the sides of his ejection seat, bracing for impact.

After a prolonged debrief about the fact that the senior guy isn't always right, I reminded him he was in the same aircraft. ◀

Cdr. Foerster was assigned to VT-7. He is now serving in USS *Forrestal* (CV-59) as air operations officer.

It started out like any other typical day at the squadron: a 0730 brief for a 2 v 2 on the TACTS range. We had just completed a six-month cruise and we were starting to spool up again after a relaxing month-long standdown. Summer was just around the corner. We were looking forward to a lot of great flying back at the beach.

The Fighter Derby was also coming up in a couple of weeks so we briefed according to Derby rules. We would be scored on TACTS as if we were in the Derby. I inhaled a doughnut and a pint of milk for breakfast and walked to the paraloft to suit up.

Because of the standdown, flight time was pretty slim for everyone. My pilot and I had been selected to attend Topgun. The class was going to start in one week. As nuggets, we had both flown with senior aircrew throughout the deployment and were now paired up for the course.

We flew two ACM warmup hops together then dove right into 2 v 2s against the Air Force bubbas. We had each logged a total of 10 hours in the last 45 days. This was our seventh flight together and would turn out to be our last.

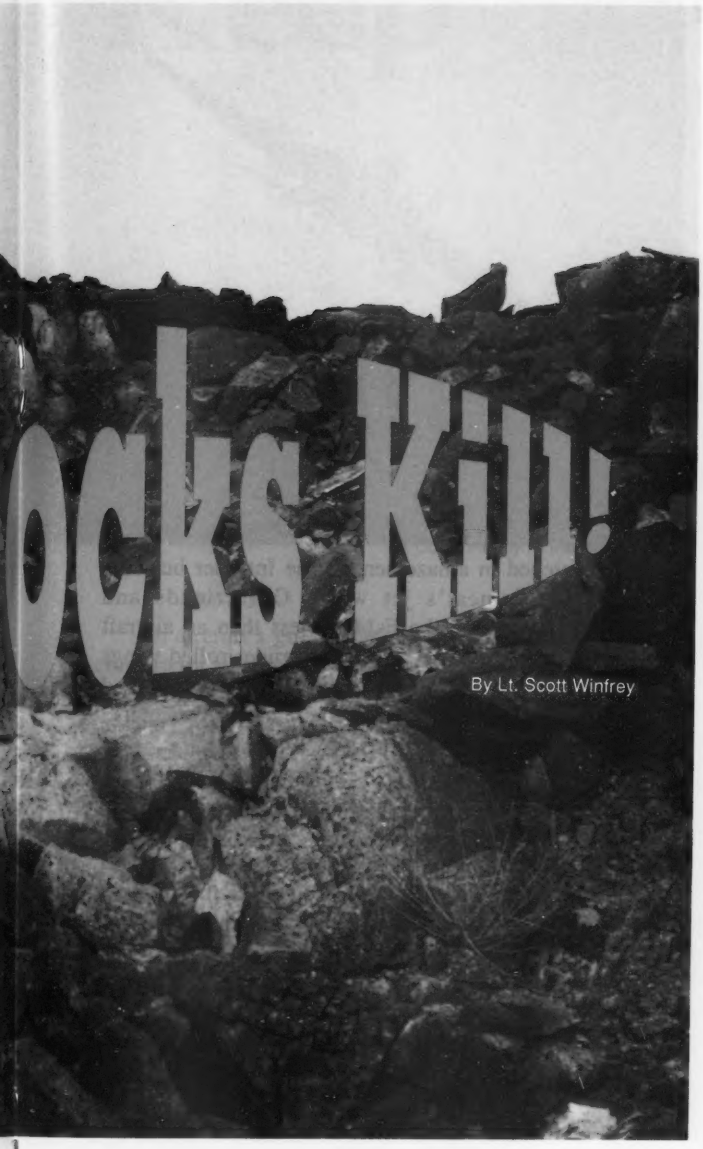
We launched after the section of bandits—an A-4 and F-16. During the 15-minute flight to the range, we heard the A-4 divert into El Centro. Now it was 2 v 1. Those F-16s are tough, but it would be fun to teach this guy a lesson in humility. We quickly assumed our CAP stations and called, "Fight's on. Recorders on." We were bulletproof and our fangs were out.

The fight didn't go as well as it should have and it rapidly degraded into a 1 v 1 with our wingman arcing around in a vain attempt to get a shot at the F-16. I was a bit surprised when I saw that we were passing through the soft deck of 13,000 feet. We were in a tight right turn with the F-16 pressing for a shot. Our wingman appeared across the circle and my pilot called, "Keep it coming. I think I can hold him off." We continued our turn for another 10-15 seconds and then someone called, "Knock it off!"

I had been watching the F-16 and wasn't aware that we had spiraled down to the hard deck. I called the altitude just as we heard the first knock-it-off call. My pilot said, "We're a rocks kill" over the ICS as he leveled off. Disappointed with our performance and my lack of SA, I turned the recorder off, cursing under my breath. I was concerned about our altitude—now about 7,500 feet—but we were pulling up and everything seemed OK.

Suddenly the plane dipped into a left bank, nose-

The wings leveled again pointed at the ground. altitudes, expecting to pull second.



down attitude.

"Have you got it?" I asked my pilot.

"Yeah, I've got it." The wings leveled again, but we were still pointed at the ground. I started calling off altitudes, expecting to pull out of the dive at any second. The left wing dipped again as we passed through 5,000 feet. Now, all I could see was the desert floor rushing up at us.

"Four thousand feet," I called as I grabbed the lower ejection handle.

"Eject, eject, eject!" my pilot yelled. I was already pulling the handle.

The force of the ejection wasn't as bad as I expected, probably because we had built up a substantial rate-of-descent. I saw the explosion when the F-14 hit the ground just as the opening shock of my parachute jerked me back to reality. The IROK procedures flashed through my mind, but none of them seemed very important when I realized how close I was to the fireball.

I quickly found the four-line release handles and pulled. To my dismay, all I could manage was to twist the risers; I wasn't steering the parachute at all. There was a steady breeze blowing me right toward the fire and there was nothing I could do. I kept trying, though, and somehow I was lucky enough to land about 20 feet short of the burning debris of my Tomcat.

I immediately released my koch fittings to avoid being pulled into the fire. I released my seatpan and stood up. After going through an ejection, I expected to find a couple of broken bones or at least some nice cuts and bruises that I could brag about at the club. The only injury I had was a sprained ankle. My pilot landed about 75 yards away from me, also uninjured. We got together quickly to get our stories straight and wait for the helo.

Yes, this is a glaring example of aircrew error. Our most obvious and worst mistake was that we stalled the airplane at low altitude and couldn't recover. We could have easily avoided the mishap by knocking the fight off 20 seconds earlier.

We let pride get in the way of better judgment. We pushed the fight a little too long just to avoid getting beaten by a single F-16. There were also a couple of less obvious mistakes that contributed to this mishap. One, we didn't stress the ACM training rules enough during the brief. I know that we're not the only guys who have glossed over the training rules just to check the block. That's just what we did on this fateful day and it really came back to haunt us. ◄

Lt. Winfrey is a RIO with VF-114.

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d. I started calling off
ull out of the dive at any

Silent Bystander

By Lt. Doug Larratt

"Omigosh! Did you see that?"

Of course I saw it. I had watched a potential midair develop for more than a minute and had done nothing. What made me a silent bystander for this near disaster?

It was a hazy, VFR day over the South Atlantic. REFTRA was almost over and a new port call approached. We were flying another no-brainer overhead tanker mission. Assigned to hawking altitude at angels 3, we scribed circles in the sky and watch enviously as the lucky fighter guys bagged extra traps below during a rare mid-cycle CQ period. Two Tomcats circled lazily in low holding, also at our altitude, waiting for the Boss' famous charlie call.

The first alarm bell should have been ringing in my head.

"514, 502 for opportunity fuel," called my squadronmate on our tactical frequency.

"Overhead, angels 3," we replied.

We scanned the horizon for the incoming bomber. Several minutes later, the other Intruder arrived in the circle in between us and one of the F-14s.

"502, I'll join," I called.

"Rog," the pilot of 502 responded and relaxed his bank. 502 adjusted his wing attitude a couple of times and seemed to drive in on the bearing line of the Tomcat in front of him, which was unbriefed and unexpected.

The safety officer flying my left seat would have something to say about this when we got back on deck.

Whoosh...thump, wing rock...dive!

PH1 Harold J. Gerwien

We watched in amazement as the Intruder buffeted through the Tomcat's jet wash. Our friends and squadronmates missed the F-14 by less than an aircraft length as we watched silently. The Intruder rolled wings level and coasted out of the established circle. We followed him. He never saw the fighter; another guardian angel had earned his wings today.

All of us gathered in our ready room to debrief this incident. We came up with several valuable lessons.

If doubt exists during a flight, talk about it quickly and concisely. This near-mishap would not have happened if I had made a timely call. I found out later that the Tomcat crew also watched the entire incident. They also assumed that the A-6 saw them and was joining. They tried to call 502 on air wing common, but the bomber crew was on their own tactical frequency.

Don't relax your scan because the other guy called "tally and will join." This experienced A-6 crew never saw the F-14. Each assumed the other was scanning in front of the aircraft. Keep good crew coordination going constantly. Lookout doctrine is a NATOPS-required briefing item before every hop.

Watch out for the routine. We had an easy mission and accepted other aircraft at our tanking altitude for reasons other than tanking. Again, the warning light should have come on and we should have insisted on another altitude. There was absolutely no operational reason to be in the same piece of sky.

Time and again we prove that planes have a magnetic attraction for each other. The big sky almost claimed another victim. ◄

Lt. Larratt is a BN with VA-95.

Keep It Centered

By Cdr. Timothy A. Meyers

An aircraft's gross weight has always been a critical concern for aviators. We learn early on about the hazards of exceeding gross-weight limitations. Before every flight, we calculate performance limitations based on our plane's weight. On the other hand, we often overlook center of gravity or we take it too lightly. Helicopters are very susceptible to problems with center of gravity. We learned just how susceptible during a Desert Storm CSAR mission.

Two SH-3Hs were forward deployed to a DD in the North Arabian Gulf, just 60 miles from the Kuwaiti coast. The aircraft were configured for CSAR with all their ASW gear removed to reduce weight. We added two M-60 machine guns, and carried three extra SEAL swimmers, as well as our assorted personal weapons. The aircraft was still 1,500 pounds below max gross weight.

In war, you try to expect the unexpected, so the crews conducted extensive morning briefs. No one thought that CG would become an overwhelming concern.

That afternoon, a report came in about several survivors in two liferafts near a burning, sinking Iraqi patrol boat. It was a 60-mile flight to the scene, only 11 miles off the Iraqi coast.

An orbiting A-6 directed the Sea Kings to the location and provided cover. Once the helos were on station, they orbited the survivors and checked for any sign that they had weapons. The Sea Kings dumped fuel to prepare for hover and began to approach the groups of Iraqis in the water. Each aircraft entered a coupled hover and deployed their SEALs. Power was not a concern in the hover with torque less than 85 percent. (Eighty-six percent is maximum continuous.)

Once in the water, the SEAL swimmers approached the enemy with weapons drawn. Five or six Iraqis were in the larger raft while three more were in the second raft, all with their hands in the air. When the SEALs swam to the larger raft, they pulled back the canopy, revealing more survivors. There were now 20 unarmed Iraqis in both rafts.

The swimmers searched each prisoner and after a thorough check, they sent the POWs up the hoists of each helo. Each aircraft ended up with 17 people onboard, including 10 POWs. Power was not a problem because the pickup took well over an hour and fuel was now down to 1,500 pounds.

After the first Sea King hoisted its 10 survivors, it departed the hover to let the second helicopter pick up the remaining prisoners. By now, the sun had set and the mission was becoming more demanding as darkness set in. The first helo still had its SEALs in the water, completing their prisoner search.

As the last few prisoners were being secured, the first helo began an approach to a hover beside its wingman, ready to slide in and pick up the SEALs. As the aircraft approached the hover, a pronounced shuffle developed which intensified as airspeed decreased.

The pilots weren't sure what was happening so they waved off. Power was still no problem and there was plenty of ASE authority. But something was not right. After discussing center of gravity, they began another approach. The helo developed the same shuffle. The HAC called for increased rotor speed and the aircraft settled. The HAC achieved a hover and the two SEALs were hoisted aboard.

Another problem was developing: a worrisome fuel split that the pilots couldn't control. The helo now had 1,000 pounds in the aft tank and only 500 pounds in the forward tank. The helo's crew now faced a 60-mile trip back, with 17 people onboard, at night. They discussed their options, including a single engine transit to save fuel. It was frustrating not understanding exactly what was happening; the situation was not covered in NATOPS.

The SH-3H departed the hover, again encountering the severe wobble-shuffle. Once established in forward flight, the aircraft smoothed out and the fuel crossfeed began working.

Back on the flight deck of the DD with all POWs delivered to the holding ship, the two crews talked about their experiences. It turned out that, for both crews, problems with center of gravity had caused pitch-lag oscillations and interfered with fuel transfer. Although power and ASE were OK, the distribution of the prisoners had resulted in control problems that neither crew had ever seen before. Fortunately, they all survived the nightmare and learned some new lessons in CG and aerodynamics. ◄

Cdr. Meyers is the CO of HS-12.

Skid Time in New England, or

R.E. Kling

By Lt. Todd Brophy

The Boston Rubber Party.

If people ask a fighter pilot what is the most challenging aspect of flying high-performance jets, he would probably point to many-v-many furballs, or the night, pitching-deck recovery. No self-respecting naval aviator would reply with, "One time I launched from a field in New England..." Except me. Here's my story.

...I could see that the runway was wet, but there didn't seem to be any standing water.

The wing had tasked our squadron to take TARPS photos of a landing area for parachute jumpers near NAS South Weymouth. I would land at Sowey, refuel, then fly back to Oceana. Simple.

We were suffering from end-of-the-quarter OPTAR blues, so I was crewed with a SAU RIO. I'd never flown with him before but his experience was indicated by all the cool patches on his flight jacket.

We briefed and headed to base ops for a weather brief. We noted broken layers at our destination but they didn't seem bad enough to cancel the flight.

We completed the TARPS portion of the flight and checked in with approach. They told us the field was IFR and there was no PAR available. We also discovered that the only active runway was the shortest one, 6,000 feet. (Did the NOTAMS mention that?) At this point, the warning bells should have started ringing.

We had enough gas to get home but that wasn't what the flight schedule said to do. So, with single-minded determination, I shot my first real TACAN approach in many years.

I broke out above minimums and picked up the landing area. On short final, I could see that the runway was wet, but there didn't seem to be any standing water. I felt that the landing rollout was OK but the crash crew swarmed on us as we cleared the active and signaled we had hot brakes. More warning signals? No problem, I must have been a little heavy on the pedals. We waited about 10 minutes as the crash crew watched and the brakes cooled.

We grabbed some chow out of a vending machine as our aircraft was fueled. I felt good about having completed the main part of the hop and I thought that the rest was going to be something I could do in my sleep.

As we taxied to the runway, I selected maneuvering flaps. Although SOP dictates we use full flaps on any runway shorter than 8,000 feet, I went with my normal (read Oceana) habit pattern. My RIO was not well-versed in the matter so he didn't raise any objections.

The takeoff roll was fine until I tried to rotate. I pulled the stick back...and nothing happened. The nose didn't budge. I had no choice but to make a high-speed abort.

"This is a very short runway," I thought. I went through the boldface abort procedures, but in my haste to stop the 65,000-pound fighter, I jumped on the binders a bit too soon. At the time, all I knew was that I wanted to stop the plane *now*.

As soon as I tapped the brake, both main tires blew. I hadn't selected anti-skid so the wheels stayed locked up as we continued down the runway, fishtailing like a getaway car in the movies. I engaged nosewheel steering to keep us pointed the right way and I dropped the hook.

Once all the rubber gave way on the tires, the rims and then the brake assemblies did their best to stop us. It seemed to take a lifetime for the jet to stop.

The crash crew was quickly on the scene foaming the aircraft. I climbed out in a daze, not quite believing what had just happened. How could a field takeoff go so wrong?

We looked at the jet. I felt a little sick as I saw the Tomcat resting on the stubs of the main mounts. The long-field gear was drawn tightly around the bottom of the external tanks, pulled almost to full run-out. I looked toward the runway. What had started as a skid, ended as parallel magnesium-etched streaks on the runway, several thousand feet long.

Things went from bad to worse as the station went out with an OPREP and NOTAMed that the field was closed. And, of course, I had to make that unwelcome call to the squadron. "Hello, Dad...?"

There was no way to move the F-14, so it stayed awkwardly sloped on the sole runway, a two-day monument to my bad headwork. The local paper even found it important enough to feature the story on the front page of the morning edition, complete with a photo that highlighted the squadron emblem.

My penance? I lost my flight-lead status and a chance at an upcoming mission-commander qualification. I also had the pleasure of spending a det at Fallon as a ground officer.

It sounds like a cliche to say that nothing is routine in aviation, but, trust me, it's true. The plan as shown on the flight schedule does not take precedence over sound judgment. I should have thought better of landing in the first place. Once I elected to do that, I should have thoroughly briefed the second leg of the hop, discussing the particulars like runway length and abort procedures. Now, temporarily relieved of some professional burdens, I have more time than I need to dwell on these facts. ◄

Lt. Brophy is an F-14B pilot with VF-143.

Left to right: LCdr. Jim Michaels, Ltjg. John Lemmon, Ltjg. Tristram Farmer

LCdr. Jim Michaels
Ltjg. John Lemmon
Ltjg. Tristram Farmer
VAW-122

Passing through the 45 position during FCLPs, the crew of Steeljaw 602 heard a distinct engine surge accompanied by a yaw to the right. Ltjg. Lemmon (PAC) rolled wings level and added power to stop his descent. LCdr. Michaels (AC) saw the rpm on the starboard engine register 105 percent with no horsepower indication. He immediately took control and told the LSO of the problem. Ltjg. Farmer (RO) backed the pilots up on emergency procedures.

After consulting NATOPS, the crew began emergency procedures for a propeller-off speed while trying to find out what was wrong. The starboard engine indications, near-zero horsepower, high rpm, low TIT, and low fuel flow could indicate that a propeller had either decoupled or pitchlocked.

LCdr. Michaels determined that the prop engine noise indicated that the propeller was still engine-driven and had not decoupled. However, the rpm did not respond to power lever movement, so the prop did not seem pitchlocked, either. The crew decided to fly back to their home field, less than 20 miles away.

They raised the gear and flaps, and told paddles they were leaving. At 800 feet, they were unable to climb with full power on the good engine. The crew briefly considered shutting down the starboard engine and feathering the prop to try to improve the flight characteristics of the E-2. They decided against this step, however, because they were at only 800 feet and the aircraft was flyable.

They began a shallow turn back toward the naval auxiliary landing field, switched to paddles frequency and told the LSO they intended to land as soon as possible. The crew transitioned to the landing configuration, lowered the hook and made an uneventful field arrestment.

When maintenance arrived and began an inspection, the mechs discovered that the propeller would not have feathered because of a unique failure in the propelier valve housing. Since the blade angle was stuck at 14 degrees, the associated increase in drag with the engine secured would have been too great for the aircraft to remain airborne.

The situation resembled more than one emergency, each one with one or more disqualifiers, and the crew reached the point where the NATOPS emergency procedures no longer gave explicit instructions. Only the crew's thorough knowledge of the systems and aircraft characteristics saved the plane.

Capt. Michael G. Hawkins, USMC
1stLt. Bryan Sweeney, USMC
HMT-303

Capt. Hawkins (IP) and 1stLt. Sweeney (RAC) were conducting a training flight with night vision goggles in their AH-1J. They had just departed MCAS Camp Pendleton's control zone for a one-hour navigation flight when the master caution and No. 1 hydraulics system light came on. The light was accompanied by grinding noises from the hydraulics compartment and the loss of hydraulic boost to the directional control pedals.

Capt. Hawkins immediately turned back toward the field while 1stLt. Sweeney broke out the NATOPS PCL and read off the appropriate emergency procedures.

The crew decided to make the approach without their NVGs. Capt. Hawkins called Pendleton tower, declared an emergency and asked that the runway lights be turned on, after having been secured for NVG operations. He flew a shallow, straight-in approach, minimizing control movements and slid the Seacobra onto the runway at approximately 55 knots.

Inspection showed an elbow fitting had failed, causing the loss of all hydraulic pressure in the No. 1 system.

BRAVO ZULU

Left to right: lstLt. Bryan Sweeney, USMC; Capt. Michael G. Hawkins. USMC

Maj. Mike McBride, USMC
1stLt. Frank Richie, USMC
VMFA(AW)-121

1stLt. Richie (pilot) and Maj. McBride (WSO) launched as number two in a six-plane night translant to SWA. After they refueled from a KC-135, the tanker's drogue assembly separated from the refueling hose. While the drogue remained firmly attached to the F/A-18D's probe, the tanker refueling hose oscillated wildly, discharging fuel that covered the Hornet's front windscreen and obscured the pilot's vision. The fuel was also ingested into the F/A-18's intakes.

1stLt. Richie reduced power and separated from the tanker, while dual fire-warning lights came on and fire from the plane's port engine illuminated the night sky. The pilot pulled both throttles back to idle as he and Maj. McBride discussed their options.

After 1stLt. Richie reduced the throttles to idle, the right-engine fire-warning light went out. There were no secondary indications of fire. He selected the engine page on his DDI and saw decreasing EGT on the port engine, confirming that the fire had been extinguished.

Although the aft cockpit was filled with smoke and fumes, Maj. McBride covered single-engine and bingo procedures while 1stLt. Richie concentrated on flying the aircraft and descending to an intermediate level-off altitude. The pilot was finally able to stabilize the Hornet at 9,000 feet and 200 knots.

As the crew continued their single-engine divert, Maj. McBride gave a thorough field brief to his pilot on NAS Brunswick's characteristics. Approaching 20 miles, the crew dropped the plane's landing gear and did a controllability check. They continued their approach to a successful single-engine, short-field arrested landing.

The Hornet's port engine had an internal explosion and engine-bay flash fire after ingesting fuel. Further inspection also revealed that the starboard engine's high-pressure compressor section had been damaged.

Left to right: 1stLt. Frank Richie, USMC; Maj. Mike McBride, USMC

This Only Happens in the Simulator!

By Lt. Steven Halsted

The crew of an Intruder tosses their gear into their bulb-nosed jet and heads for the snack shack. They order burgers, fries, and a couple of sodas. It's the second leg of a cross-country so they brief between mouthfuls of grease.

"Emergencies per the morning brief," says the pilot.

"Let's take a look at the VR chart. We'll pick some good valleys and a checkpoint or two", says the BN.

"Line speeds, weather, and flight plan look good. How's your burger?"

The BN mumbles with a mouthful of cow flesh, "Great! The Air Force may not be able to land on a boat but they sure make good sliders."

They toss their trash. The pilot says. "I've gotta hit the head. I'll see you at the plane." The BN nods and steps out the door.

As the pilot walks to the plane he sees the BN already on top of the aircraft putting on his gear, so he picks up the pace.

"Are you going to get the pins after start?" he asks.

The BN replies, "No, go ahead and pull 'em now and stow them. There's no final checker and I don't want to find a missing pin after we're airborne."

As the pilot climbs into his seat he realizes that the BN is already strapped in and appears ready to go. After quickly buckling in and making a fast cockpit scan, the pilot calls for power. Before he can signal the huffer, an airman asks if he can swing around after starting so they can refuel a C-130 parked behind him. The pilot says "OK, as soon as we get it started I'll get it cocked out of your way".

The huffer winds up and they get two good starts. Time to disconnect but the pilot can't see his plane captain to give the signal. To his surprise, somebody has already pulled the external power. He wonders if the BN called for it.

He can taxi forward now to help out the ground crew. Once again he looks for the missing PC to call for chocks.

"I can't believe it. They pulled chocks without my signal!" He decides to continue with pre-taxi checks.

Meanwhile, the BN has completed his checks and calls for clearance; he is ready to taxi. Just as ground is calling with taxi instructions, the pilot says something that is unintelligible. The BN doesn't question his remarks.

After receiving taxi clearance, they head toward the hold-short and start taxi-takeoff checks. After they check the pop-ups they hold the rest of

> As the bird wallows back to the left with a unnerving rate of decent the BN decides that he has had enough and pulls the handle.

the checklist till they arrive at the hold-short.

"Wings spread and locked, flag's down, boarding ladder up, check your side," the pilot says as he checks the left side.

"Mine's good," says the BN.

"Trim's zero, zero and six...wait a minute. No, it's not." The pilot resets the trim.

"Position indicators good, boards in, flaps and slats down. Fuel is 18.5, seems a little light"

"Aw-w, that's just because we've got JP-4," the BN replies.

"Fuel PSI lights are on, switches good. Check the harness, six points attached, arm your seat, top and bottom."

The BN arms his seat.

"Six points attached on mine." No response from the BN so the pilot looks over and sees six points attached. "Check flaperon pop-ups."

"Fine, down and up."

The pilot calls for takeoff. "Tower, Intruder 502, takeoff."

"Intruder 502, cleared for takeoff, switch to departure"

The Intruder taxis into position on centerline about 100 feet from the end of the runway. The pilot advances the throttles and checks the RPM, fuel flow, and EGT. Hydraulic and oil pressure look good. Controls cycled and free. Compass heading aligned.

The pilot looks at his BN. "You all set to go?"

"Yep."

The pilot releases the brakes. "Good acceleration," he thinks. "Hold nosewheel steady until 80 knots. Inside. Engine gauges look good. 135 knots. Everything is just fine. Passing 145 knots."

"OK, time to rotate." He eases back on the stick and the Intruder hesitates, then lifts off the deck after a 5,000-foot roll. Passing 155 knots the pilot reaches for the gear handle. His hand grasps the flap handle and raises it.

Climbing through 100 feet, the Intruder starts a slow wing dip 30 degrees to the right. The pilot counters with left stick and a little rudder.

"Something's wrong!"

The aircraft rolls back toward wings level but continues to nearly 60 degrees left wing down. With hard right stick and a boot-full of rudder the airplane rolls back to the right to nearly 90 degrees angle-of-bank. Once again the pilot tries to correct the roll with opposite control inputs.

Anxiously, the BN asks, "Is it OK?"

There is no reponse from the pilot. As the bird wallows back to the left with a unnerving rate of decent the BN decides that he has had enough and pulls the handle.

The pilot thinks, "This only happens in the simulator." Then the roar of a rocket motor catapulting the BN out of the cockpit brings him back to reality. As the left wing impacts the runway he reaches for the handle. Red light. Searing heat. Wind blast. Sudden jerk. As his eyes open the pilot sees the ground rushing up at him.

Both the pilot and the BN survived this mishap. The BN received minor cuts and bruises, and a minor back strain. The pilot ejected through the fireball as the airplane hit the ground and had minor burns on his face and neck, back strain, and a cut foot from striking something in the cockpit. He probably got one swing in the chute.

The airplane was destroyed on impact and was found with the flaps and slats retracted, gear down and locked and the gear handle in the down position. ◄

Lt. Halsted is the editor of *Approach*.

Bingo? Surely You Jest!

By Lt. Richard Malczynski

PH2 Tracy Lee Didas

Because no good deed goes unpunished, I got the early morning MEDEVAC for returning sober on the final night of liberty. The MEDEVAC went smoothly and the morning haze seemed to be clearing as we made our way back to Mother. We went feet wet with a sweet lock at 40 miles. We noticed a solid layer below us topping out at 700 feet AGL. Small sucker holes appeared intermittently but we refrained from temptation. Instead, we contacted approach. "Jaguar 610, approach," the ship replied, "I do not hold you on my gadget. We are not prepared to give you a CCA at this time."

Their response was no surprise since Mother had pulled anchor two hours earlier and the air wing wasn't flying. No big deal. We spent most of the last two months flying in low visibility so we were accustomed to (if not comfortable with) the prevailing conditions. We pressed on, hoping for better weather. After several passes over Mother with no joy, we spotted a small but appealing sucker hole and went for it.

At 150 feet AGL we momentarily enjoyed a mile of visibility, but it quickly went down to a half mile. At 2.5 miles we were in the goo. The water disappeared below us and an unsettling world of white engulfed us. We established an altitude that would clear us of the ship's mast and a heading that would offset the TACAN needle several

The only problem we had was getting onboard, and that was rapidly going from a challenge to a quest.

radials to the left. It wasn't much, but it was a plan. We pressed on.

At one-quarter mile on the TACAN there was still no sign of the ship. We blindly searched the fog. A quick scan of the TACAN detected a nervous needle followed by a textbook station passage. That's when Mother's masthead passed 25 feet below my chin bubble. I was furious with myself for allowing us to pass so close to the tower. It was time to regroup.

As we climbed out of the goo, I radioed approach and demanded a CCA. By now they were manned and ready. I felt a little better as we vectored around the CCA pattern, knowing we were in the cocoon of radar coverage.

All seemed normal up to "slightly above glidepath, on course, three-quarters of a mile. Call the ball." My copilot and I both nervously chuckled before I called, "Negative ball." We pressed on.

At one-quarter mile, as I climbed, I double-checked the CDI for lineup only to realize we had forgotten to set the final approach course. My concern for the CDI quickly gave way to my aircrewman's shout of "Up and right, up and right!" I immediately complied and for the second time watched the mast pass under my chin bubble. This time it was much closer.

Now I found myself 30 degrees nose up with an armpit full of collective and airspeed bleeding off below 50 knots. The only good thing about this aircraft attitude was that it facilitated our breaking into the clear where we were able to regain our composure and attitude before answering the frantic calls of the air boss. The first pass made me mad at myself, but the second pass was more in the religious-experience category.

The boss had had enough "stupid helo tricks," and offered us an out by recommending we bingo for fuel. Bingo? No way. First of all, we had 2.5 hours to splash, so fuel wasn't a problem. Second, we were a helo; we don't bingo. The only problem we had was getting onboard, and that was rapidly going from a challenge to a quest. We had one more trick up our sleeves: an emergency low visibility approach (ELVA). The boss reluctantly gave us an OK. We pressed on.

Departure vectored us to three miles astern on the port side of the ship. We began an IFR descent to 150 feet AGL and from there, a coupled approach to 40 feet. We could now see the water which was somewhat reassuring, but not entirely relaxing. We air taxied forward at 20 knots with eight eyes peeled for Mother. Five minutes later, we saw the wake at one-quarter mile and followed it. We were about 200 feet astern when we finally saw the ship. We were home...almost. We pressed on.

As we rose to flight-deck level we were dismayed to find the angle deck clobbered except for spot three. I told my copilot to monitor the collective and not to allow us to descend below 100 feet until we crossed the deck edge. As I worked the helo toward a fuzzy spot three, my scan alternated between IFR to VFR while the nose pitched anywhere from 20 degrees nose up to 15 degrees nose down.

After what seemed like an eternity of fighting the aircraft and the urge to wave off, I positioned abeam the spot, slid right and touched down.

My shaking knees carried me to the ready room where I was greeted by a few attaboys for getting onboard. One senior pilot regarded it as a textbook ELVA. Forty-five minutes later, as I debriefed my copilot on what not to do the next time, I looked up at the PLAT to see CAVU conditions.

I should have been aware of limiting factors. Four days in port can degrade flying skills. To make a safe, intelligent decision, I should have thoroughly evaluated the weather and crew capabilities, and considered all options.

If the boss says bingo, then bingo. Helicopters seldom face this situation, but if it looks like a good idea to someone who's not going to get wet, then it should look like a great idea to someone who will. Jump on it.

If you've got the fuel (we did), scout out in front of the ship for clear weather. Establish a bingo fuel state for finding good weather and if conditions don't improve, bingo with your head held high.

Encourage crew feedback and participation in all phases of flight. My crew placed their trust in me and would have followed me anywhere...even into the side of the ship's tower.

Get-home-itis will get you in trouble every time, regardless of where home is. The primary objective of any mission is to return safely. ◄

Lt. Malczynski is an SH-3H pilot with HS-9.

Use Your Lips

By Lt. Don Sullivan

As a senior HAC halfway through my second deployment with the squadron, I was a varsity player. The skipper and I were flying one of the special-mission SH-3Hs, complete with NVG-compatible blue cockpit lighting. However, we weren't using the NVGs this particular night since our mission was deck landing qualifications (DLQs).

We were in the Red Sea, eagerly awaiting our transit through "the Ditch" and our return to the more familiar waters of the Med. Our host DD for the evening was gracious enough to open her deck for two of our birds to do max bounces; my squadron was trying to maintain night DLQ currency for several of our pilots. Things were going reasonably well, which is not to say that the pucker factor wasn't a bit higher than normal. With the aid of our trusty TACAN and some basic "Jethro Bodeen ciphering," the CO and I flew the pattern even though the ship appeared as a dim light from less than three-quarters of a mile on downwind.

I am now convinced that my lip light is worth every penny I paid for it.

After we completed just enough DLQs to requal – and humble – ourselves, we felt pretty good. It was time to go home. I pulled the Sea King into a hover and checked the gauges. Everything was normal. I slid the aircraft clear of the deck, pulled the collective and pushed the nose over. That's when the trouble started.

For those who don't know, the SH-3H has not always had blue NVG cockpit lighting. In fact, the SH-3H is older than many of our first-tour pilots who fly it. To enhance the aircraft's CSAR capabilities the necessary lighting was installed to allow the use of NVGs. This modification includes replacing all interior bulbs in each cockpit instrument. We also installed lighting strips along all consoles and over the instrument panels to light the surfaces of those gauges and panels that are not internally lit with blue light.

Both pilots' vertical gyro indicators and radar altimeters are illuminated by these strips. Unfortunately, in the SH-3H, the power source for the lighting strips comes from the DC monitor bus, which is automatically dropped when either generator fails.

Having said all that, those familiar with the various surprises that naval aviation holds can guess what happened next. At approximately 35 feet AGL and 20 knots, as the lights of the flight deck disappeared and we plunged into the darkness, the No. 2 generator dropped off the line. With our limited experience in flying these newly modified aircraft, we were caught off guard.

My primary attitude indicator and radar altimeter were now totally black. I rapidly began scanning the other instruments when I heard "the voice."

It said, loudly and clearly, "Altitude is your best friend." Increasing the collective, I could see the barometric altimeter beginning to climb and my airspeed start increasing. The bearing distance heading indicator did not indicate we were in a turn. Still, I was unnerved by the fact that I had no accurate display of the aircraft's attitude or altitude.

After a couple of expletives from both sides of the cockpit, I asked something intelligent. "Skipper, can you see your gauges?"

In my peripheral vision, I could see a green beam of light.

"Yeah," he responded. "You're at 700 feet and climbing like a bat out of hell."

It wasn't until then that I realized we were both flying with our newly acquired NVG-compatible, microphone-mounted "lip lights." You know, the ones the Army guys always use? The ones that look ridiculous and that you swore you'd never buy?

I immediately pressed the little switch with my lip, actuating the light, and a wave of relief spread over me. I could see all my instruments again!

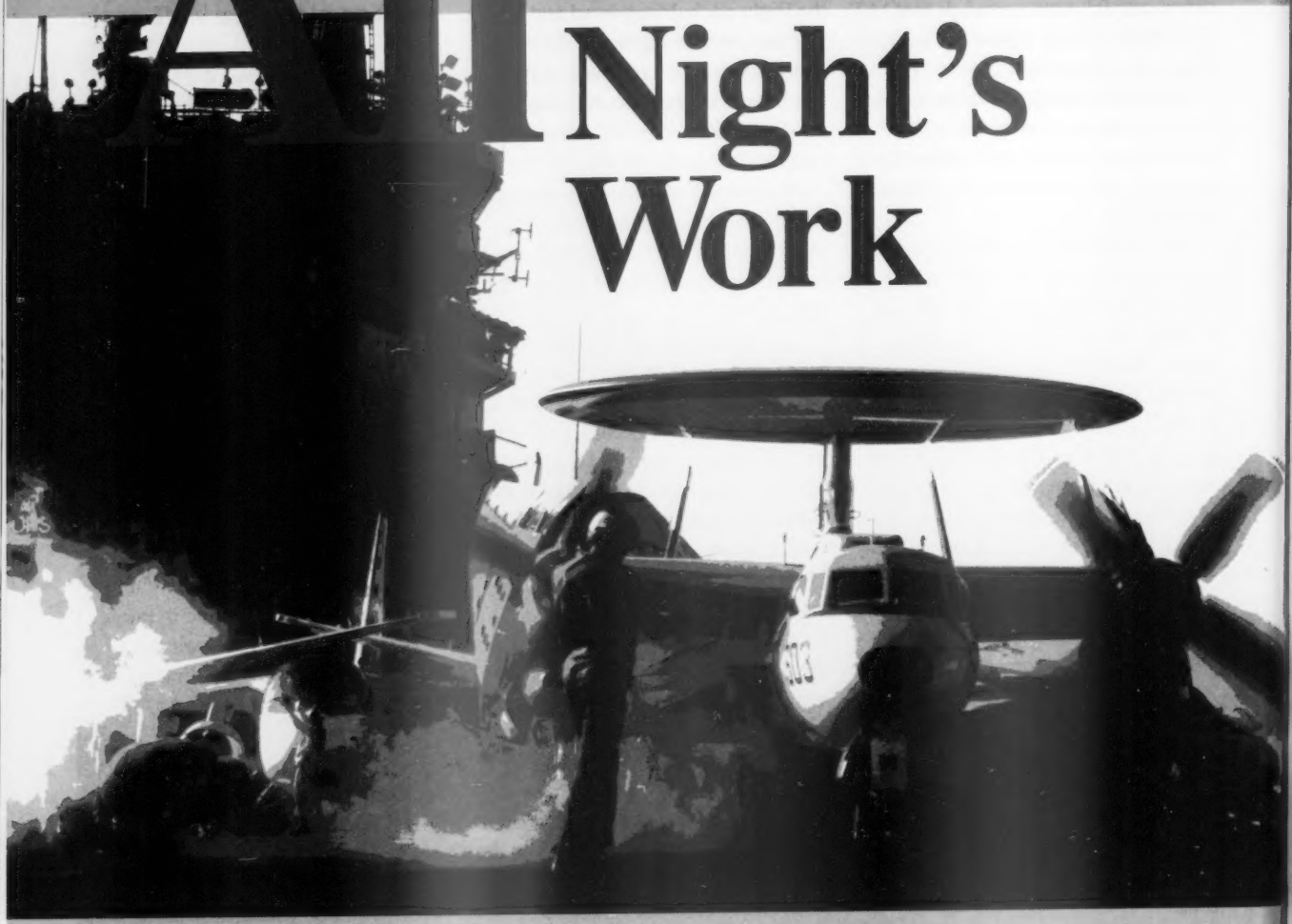
The CO and I flew around for the next couple of minutes with our lower lips sticking out and our little green lights on while we stabilized the aircraft and broke out our NATOPS PCL. After going through the procedures, which resulted in the recovery of the failed generator and our lighting, we returned to the carrier for an uneventful landing.

I am now convinced that my lip light is worth every penny I paid for it. It's inexpensive, extremely handy, and saves fumbling around in the cockpit for a light when you really need one. Plus it won't degrade your night vision.

I think that the Navy should provide a comparable lip light for every helicopter helmet. I can assure you that generator failures get a lot more emphasis in my brief now. Good crew coordination continues to be the best guarantee you have that you will be able to handle unexpected situations. ◀

Lt. Sullivan is an SH-3H pilot with HS-9.

All In A Night's Work



As we manned up for the 1900 launch, it started to rain hard. By the end of the preflight, I was soaked. Not a good way to start a flight. As we taxied into the shuttle of cat 1, I asked the copilot to give me a good instrument backup. It was the darkest night I had ever seen. We launched into the abyss.

After my eyeballs recaged, I found that it took a lot more work to fly instruments with no horizon. I thought that if anything happened right after the shot, we would be in trouble. The transition from warm and fuzzy on the cat to flying in absolute darkness at 1,000 feet in driving rain takes several minutes.

The next two-and-a-half hours were relatively calm although we were being tossed around by moderate turbulence. The light show on the windscreen caused by static electricity was fun to watch, but I decided it was a good idea to review lightning strike procedures. Fortunately, we didn't need them.

Cooler heads prevailed on the ship and the last event was cancelled because of weather, and a recall begun.

As we headed toward marshal, the pilot's and copilot's airspeed indicators dropped to zero. No problem. Icing had clogged the pitot tubes and we could get ground speed from the CAINS. The artificial pitch feel system began to degrade to manual because the airspeed inputs were lost. No problem. That's why they put a manual switch in the airplane.

We made it to marshal and pushed on arrival. It was time to finish the checklist and dump fuel to max trap. Still no airspeed, but we managed to get set up behind the ship in proper configuration.

There was no ACLS needles or bullseye. Things just weren't going our way. The rain completely obscured our view. We decided to do a self-contained approach, hoping that the picture would improve by the time we were on the ball.

No problem... That's why they put a manual switch in the airplane.

At three-quarters of a mile we called the ball. "601 is clara." No problem. That's why LSOs get paid the big bucks to talk us down. What was this? The LSO's radios were weak. Nothing in our training prepares you for a blind night CV approach.

At a half-mile the ball began to come into view as did our lineup. What do you know: we were low and lined up to the left.

"Wave it off," the LSO called. We went back into the clag for another chance to excel.

On downwind, I thought, "I don't think I am up for this." This was my copilot's first hop off the boat, however, so I told him, "You can't buy training like this."

The second time around was the same story: no needles, no airspeed, and poor communication with paddles. It was still raining, too. Everyone was either bingo or safe on deck kissing the ready room floor.

The third time, this was it. Checklist complete, three-quarters of a mile, fly the ball. For the next 30 seconds, the copilot hawked lineup while I concentrated on the fuzzy ball. As we flailed behind the boat we relied on paddles' constant, reassuring narrative.

All I remember about the pass is a centered ball crossing the ramp, and settling into a 1-wire (my first OK 1-wire). After we shut down, I waited in the airplane a few extra moments to collect myself. In the ready room, the mission commander shook my hand and said, "Thanks."

"All in a night's work," I replied. ◀

Lt. Kennedy is an E-2C pilot with VAW-117.

"Aviate, first." Don't Panic

By Lt. Walter A. Krumholtz

What, me worry? Most aviators take pride in the fact that our profession occasionally demands extreme coolheadness under pressure. While flying TA-4Js at NAS Southwest, I got a first-hand look at why flight crews are taught, from day one, to think clearly, no matter what's going on.

We briefed the hop as a two-plane, night formation hop. My instructor and I would fly the lead aircraft. We would do 20 minutes of form work, then hit the landing-GCA pattern.

We walked late because of aircraft problems and our first jet went down. Since the field closed at 2300, we were definitely in a hurry. As we tried to get in a second jet, our wingman went down. We decided to launch as a single and just get the night landings in. We finally took off at 2230.

We were pressed for time and we had too much fuel for the landings, so we picked up radar vectors to accomplish our "gross weight adjustment." My instructor handled the dumping from the back seat while I concentrated on flying IFR and getting vectors to the GCA box. As I scanned the instruments, everything looked normal. I watched the fuel needle cycle between the internal and the drops as my instructor completed dumping.

As I turned base, I saw 300 pounds on the fuel needle.

"Are you still checking the drops?" I asked my IP.

"No, aren't you?" he asked. We both realized that this amount was our *internal* quantity and that we might have dumped more gas than we had intended.

"Clean off your kneeboard and check your straps," my instructor said. "We may have to eject if we flame out." His voice was unusually strained. "I'm declaring an emergency."

My first instinct was to panic and I had to think, "Aviate, first." Looking down, I saw we had lost 500 feet and were drifting off course. I glanced down again at the fuel gauge. Now it was reading 200 pounds.

"Wait a second," I thought. "Can this be right? There's no low-fuel idiot light."

My instructor was still talking to approach to get us a minimum-fuel GCA while we turned onto final. We were already dirty at 1,500 feet, so I decided to slow to on-speed and see how much fuel we really had. As I noted airspeed and AOA, I realized we still had 3,000 pounds! The fuel needle had failed as we were dumping. Within a few seconds, I convinced my IP and we landed uneventfully.

Although there are a few aircraft malfunctions that require decisive, immediate action, most allow at least a few moments to make a more informed decision. Use all the time available to assess your situation and keep from having a helmet fire. As all the really salty aviators say, "Aircraft have malfunctions; aircrews have emergencies." ◄

Lt. Krumholtz is an A-6 pilot with VA-95.

Contributed by Lt. C.E. Snodgrass, VF-121

WANT TO BE 4 FEET TALL?

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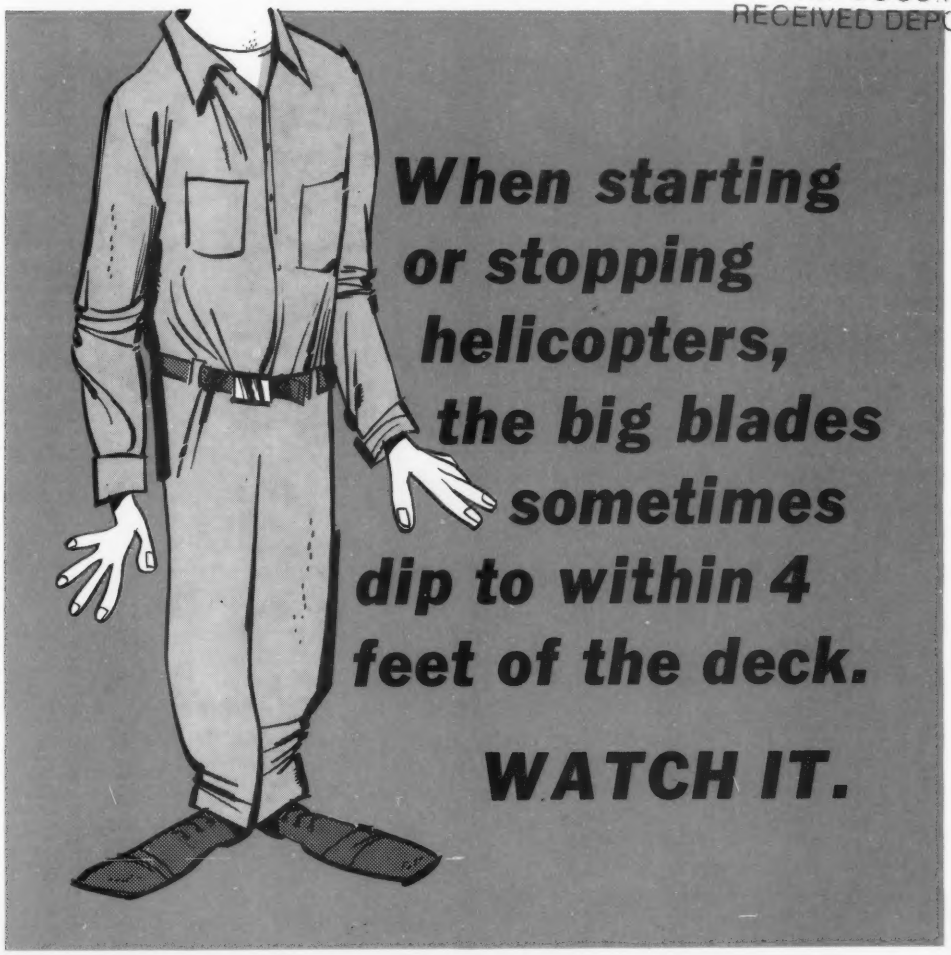

When starting or stopping helicopters, the big blades sometimes dip to within 4 feet of the deck.

WATCH IT.

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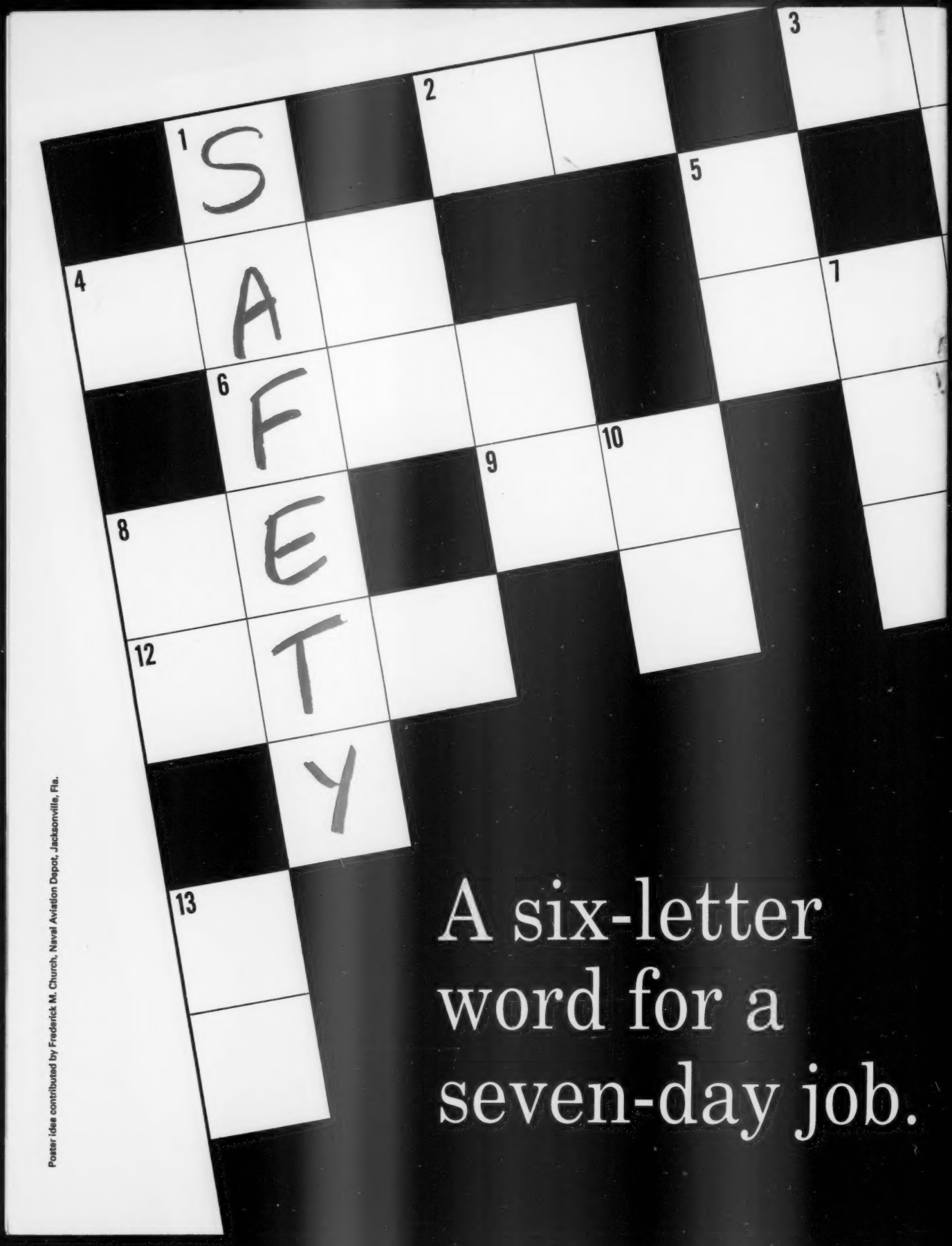

Poster idea contributed by Frederick M. Church, Naval Aviation Depot, Jacksonville, Fla.